Section 3.6 Zoning District Regulations (Add the following uses to the indicated Zoning Districts.)

3.6.1.C (A-1 Prime Agricultural Zoning District)(Accessory Uses)

6. Non-Commercial WECS, subject to Section 4.2.17

3.6.1.D (A-1 Prime Agricultural Zoning District)(Special Exception Uses)

13. **Cottage Industry on parcels of five or more acres** unless the Board of Adjustment finds that:
    - ***a.*** Allowing the Cottage Industry on a smaller area is appropriate for the specific site, and
    - ***b.*** allowing the Cottage Industry on a smaller area will not cause adverse impacts on neighboring properties greater than the impact caused if the Cottage Industry were on five acres or more.

20. Commercial WECS, subject to Section 4.2.16

3.6.2.C (AR-1 Agricultural Recreation Zoning District)(Accessory Uses)

6. Non-Commercial WECS, subject to Section 4.2.17

3.6.2.D (AR-1 Prime Agricultural Zoning District)(Special Exception Uses)

10. **Cottage Industry on parcels of five or more acres** unless the Board of Adjustment finds that:
    a. Allowing the Cottage Industry on a smaller area is appropriate for the specific site, and
    b. allowing the Cottage Industry on a smaller area will not cause adverse impacts on neighboring properties greater than the impact caused if the Cottage Industry were on five acres or more.

18. Commercial WECS, subject to Section 4.2.16

3.6.5.C (C-1 Highway Commercial Zoning District)(Accessory Uses)

5. Non-Commercial WECS, subject to Section 4.2.17

3.6.5.D (C-1 Highway Commercial Zoning District)(Special Exception Uses)

6. Commercial WECS, subject to Section 4.2.16

3.6.6.C (C-2 Rural Support Commercial Zoning District)(Accessory Uses)

4. Non-Commercial WECS, subject to Section 4.2.17

3.6.6.D (C-2 Rural Support Commercial Zoning District) (Special Exception Uses)

5. Commercial WECS, subject to Section 4.2.16

3.6.7.C (M-1 Limited Industrial Zoning District)(Accessory Uses)

4. Non-Commercial WECS, subject to Section 4.2.17

3.6.7.D (M-1 Limited Industrial Zoning District)(Special Exception Uses)
5. Commercial WECS, subject to Section 4.2.16

3.6.8.C (M-2 General Industrial Zoning District)(Accessory Uses)
4. Non-Commercial WECS, subject to Section 4.2.17

3.6.8.E (M-2 General Industrial Zoning District)(Special Exception Uses)
10. Commercial WECS, subject to Section 4.2.16

Chapter IV: Supplemental Conditions

New Section 4.2.16 Commercial WECS (C-WECS). The requirements of this Ordinance shall apply to all C-WECS proposed after the effective date of this Ordinance. C-WECS for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing C-WECS, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing C-WECS shall be allowed without full compliance with this Ordinance.

A. General Requirements for C-WECS.

1. **Color and Finish.** Wind Turbines shall be painted a non-reflective color. Blades may be black in order to facilitate de-icing. Finishes shall be matte or nonreflective. At C-WECS sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the C-WECS to the natural setting and existing environment.
2. **Tower configuration**. All wind turbines, which are part of a C-WECS, shall be installed with a tubular, monopole type tower. Meteorological towers may be guyed.
3. **Lighting.** C-WECS sites shall not be artificially lighted, except to the extent required by the FAA or other applicable authority. Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Red strobe lights are preferred for night-time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
4. **Signage.** All signage on site shall comply with Chapter 8, Signs, of this Ordinance. The manufacturer's or owner's company name and/or logo may be placed upon the compartment containing the electrical generator, of the C-WECS. Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the C-WECS sites.
5. **Feeder Lines.** All communications and feeder lines, equal to or less than 34.5 kV in capacity, installed as part of a C-WECS shall be buried.
6. **Waste Disposal.** Solid and hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site in a time period as established by the Clinton County Health Department and disposed of in accordance with all applicable local, state and federal regulations.
7. **Minimum Ground Clearance**. The blade tip of any Wind Turbine shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet.

8. **Signal Interference.** The applicant shall minimize and mitigate any interference with electromagnetic communications, such as radio, telephone or television signals caused by any C-WECS.
9. **Federal Aviation Administration**. All C-WECS shall comply with FAA standards and permits.
10. **Electrical Codes** and Standards. All C-WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable Standards.
11. **Setbacks.** The following setbacks and separation requirements shall apply to all Wind Turbines and meteorological towers; provided that the Board of Adjustment may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby. All other structures shall comply with the applicable setbacks as allowed by the base zoning district.
    a) **Inhabited Structures**. Each wind turbine and meteorological tower shall be set back from the nearest residence, school, hospital, church or public library, a distance no less than the greater of (a) two (2) times its total height or (b) one thousand (1,000) feet.
    b) **Property Lines**. At no time shall any part of the wind turbine and meteorological tower overhang an adjoining property without securing appropriate easements from adjoining property owners.
    c) **Public Right-of-Way**. Setbacks from public right-of-way, railroads, powerlines and structures shall be a minimum of 1.1 times the height of the tower and rotor.
    d) **Communication and Electrical Lines**. Each wind turbine and meteorological tower shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 1.1 times its total height, determined from the existing power line or telephone line.
12. **Noise**. Audible noise due to C-WECS sites operations shall not exceed sixty (60) dBA for any period of time, when measured at any dwelling, school, hospital, church or public library existing on the date of approval of any Special Exception Use permit from the property line.
    a) In the event audible noise due to C-WECS operations contains a steady pure tone, such as a whine, screech, or hum, the standards for audible noise set forth in this subsection shall be reduced by five (5) dBA.
    b) In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches and public libraries. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind generated noise at the microphone. Ambient noise

level measurements may be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

c) In the event the noise levels resulting from the C-WECS exceed the criteria listed above, a waiver to said levels may be granted by the Board of Adjustment provided that the following has been accomplished:

(i) Written consent from the affected property owners has been obtained stating that they are aware of the C-WECS and the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and

(ii) If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement shall be recorded in the Office of the Clinton County Recorder which describes the burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.

13. **Safety**.

a) All wiring between Wind Turbines and the C-WECS substation shall be underground. If the developer can demonstrate the need for an overhead line and the acceptance of landowners for this line, such option may be approved conditionally by the Clinton County Board of Adjustment.

b) Wind Turbine and meteorological towers shall not be climbable up to 15 feet above ground level.

c) All access doors to Wind Turbine and meteorological towers and electrical equipment shall be locked when not being serviced.

d) Appropriate warning signage shall be placed on Wind Turbine towers, electrical equipment, and C-WECS entrances.

e) For all C-WECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation and tower design of the C-WECS is within accepted professional standards, given local soil and climate conditions.

f) For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of eight (8) feet above the ground. Visible fencing shall be installed around anchor points of guy wires. The property owner must sign a notarized acknowledgement and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Board of Adjustment.

14. Exceptions to this section may be made for meteorological towers, where concerns exist relative to aerial spray applicators.

B. **Discontinuation and De-commissioning.** A C-WECS shall be considered a discontinued use after one (1) year without energy production, unless a plan is developed and submitted to the Administrator outlining the steps and schedule for returning the C-WECS to service. All C-WECS and accessory facilities shall be removed to four (4) feet below ground level within one hundred eighty (180) days of the discontinuation of use. Each C-WECS shall have a De-commissioning plan outlining the anticipated means and cost of removing C-WECS at the end of their serviceable life or upon becoming a discontinued use. The cost estimates shall be made by a professional engineer licensed in the State of Iowa. The plan shall also identify the financial resources that will be available to pay for the decommissioning and removal of the C-WECS and accessory facilities. The County reserves the right to verify that adequate decommissioning terms are contained in the landowner easement.

C. Avoidance and Mitigation of Damages to Public Infrastructure.

1. **Roads**. Applicants shall identify all roads to be used for the purpose of transporting C-WECS, substation parts, cement, and/or equipment for construction, operation or maintenance of the C-WECS and obtain applicable weight and size permits from the impacted road authority(ies) prior to construction.
2. **Existing Road Conditions.** Applicant shall conduct a pre-construction survey, in coordination with the impacted local road authority(ies) to determine existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public facility. The applicant is responsible for on-going road maintenance and dust control measures identified by the Clinton County Engineer during all phases of construction.
3. **Drainage System.** The Applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the C-WECS.
4. **Required Financial Security.** The applicant shall be responsible for restoring or paying damages as agreed to by the applicable road authority(ies) sufficient to restore the road(s) and bridges to preconstruction conditions. Financial security in a manner approved by the Clinton County Attorney's Office shall be submitted covering 130% the costs of all required improvements. This requirement may be waived by the Board of Adjustment by recommendation from the Clinton County Engineer.

D. **Submittal Requirements**. In addition to the submittal requirements defined for Special Exception Permit applications, all applications for C-WECS must submit the following information (as applicable).

1. The names of project applicant.
2. The name of the project owner.
3. The legal description and address of the project.

4. A description of the project including: Number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.
5. Site layout, including the location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale.
6. Engineer's certification(s) as required in these supplemental standards.
7. Documentation of land ownership or legal control of the property.
8. The latitude and longitude of individual wind turbines.
9. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other C-WECS within 10 rotor diameters of the Proposed C-WECS.
10. Location of wetlands, scenic, and natural areas [including bluffs] within 1,320 feet of the proposed C-WECS.
11. An Acoustical analysis.
12. FAA Permit Application.
13. Location of all known communications towers/facilities within 2 miles of the proposed C-WECS.
14. Decommissioning Plan.
15. Description of potential impacts on nearby C-WECS and Non C-WECS and wind resources on adjacent properties.
16. Identification of significant migratory patterns and nesting areas for birds within two (2) miles.

New Section 4.2.17 Non-Commercial WECS (NonC-WECS). The requirements of this Ordinance shall apply to all NonC-WECS proposed after the effective date of this Ordinance. NonC-WECS for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing NonC-WECS, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing NonC-WECS shall be allowed without full compliance with this Ordinance.

A. Non-Commercial WECS, are subject to the following standards:

1. Tower Height: No height limit is established for NonC-WECS, except any limit necessary to comply with other sections of this Ordinance and those imposed by FAA regulations.
2. Setback: No part of the wind system structure, including guy wire anchors, may extend closer than ten (10) feet to the property boundaries of the installation site. The distance of the base of the tower from any property line shall be a minimum of 110% of the total height of the tower.
3. Noise: NonC-WECS shall not exceed 60 dBA, as measured at the closest neighboring inhabited dwelling. The level, however, may be exceeded during short-term events such as utility outages and/or severe wind storms.
4. Engineer Certification: Applications for NonC-WECS shall be accompanied by standard drawings of the wind turbine structure, including the tower, base,

and footings. An engineering analysis of the tower showing compliance with the applicable regulations and certified by a licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer.

5. Compliance with FAA Regulations: NonC-WECS must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.
6. Compliance with National Electric Code: Applications for NonC-WECS shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code. This information is frequently supplied by the manufacturer.
7. Utility Notification: No NonC-WECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

Section 4.2.17 New Definitions

Aggregated Project
Aggregated projects are those which are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual WECS within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but are also included as part of the aggregated project.

Commercial WECS (C-WECS)
A WECS of equal to or greater than [100/40] kW in total name plate generating capacity.

Easement
A legal interested in land, as defined in a document recorded in the office of the Clinton County Recorder, granted by the owner to another person or entity, which allows that person(s) or entity(ies) the use of all or a portion of the owner's land, generally for a stated purpose, including, but not limited to, access or placement of utilities.

Fall Zone
The area, defined as the furthest distance from the tower base, in which a guyed tower will collapse in the event of a structural failure. This area is less than the total height of the structure.

Feeder Line
Any power line that carries electrical power from one or more wind turbines or individual transformers associated with individual wind turbines to the point of interconnection with the electric power grid, in the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substation serving the WECS.

Meteorological Tower
For the purposes of this Ordinance, meteorological towers are those towers which are erected primarily to measure wind speed and directions plus other data relevant to siting WECS.

Non-Commercial WECS (NonC-WECS)
A wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more than 100 kW and which is intended to primarily reduce on-site consumption of utility power.

Rotor diameter
The diameter of the circle described by the moving rotor blades.

Substations
Any electrical facility designed to convert electricity produced by wind turbines to a voltage greater than 35,000 (35,000 KV) for interconnection with high voltage transmission lines shall be located outside of the road right of way.

Total Height (WECS)
The highest point, above ground level, reached by a rotor tip or any other part of the WECS.

Tower (WECS)
Towers include vertical structures that support the electrical generator, rotor blades, or meteorological equipment.

Tower height (WECS)
The total height of the WECS exclusive of the rotor blades.

Transmission Line
Those electrical power lines that carry voltages of at least 69,000 volts (69 KV) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.

Wind Energy Conversion System (WECS)
An electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, substations and metrological towers that operate by converting the kinetic energy of wind into electrical energy. The energy maybe used on-site or distributed into the electrical grid.

Wind Turbine
A wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.